

## Tab 2: Project Characteristics

### 2-a. PROJECT DESCRIPTION

**Provide a description of the transportation facility or facilities, including the conceptual design and all proposed interconnections with other transportation facilities. Describe the project in sufficient detail so the type and intent of the project, the location and the communities that may be affected are clearly identified. Describe the assumptions used in developing the project. The project description should be prepared in a way that fully recognizes any federal and/or Commonwealth requirements to analyze other project alignments and alternatives.**

#### **Description of the Existing Facility**

The 14-mile segment of the 22-mile long Capital Beltway in Virginia is part of the 64-mile multilane circumferential freeway serving the Washington, D.C., metropolitan area. It runs through northeastern Fairfax County, from the I-95/I-395/I-495 Interchange in Springfield to the American Legion Bridge near Great Falls. This segment of the Beltway passes through some environmentally highly sensitive and economically vital areas and connects to major interstate highways (I-66, I-95, and I-395), limited-access roadways (George Washington Memorial Parkway and Dulles Access/Toll Road), and some high-capacity primary and secondary routes via 11 interchanges.

The Beltway is a critical element in the transportation network because of its unique dual role as a regional circumferential bypass and a major local road. Constructed as part of the interstate highway system, the Beltway was originally designed to serve through traffic bypassing Washington, D.C. Since its completion in 1964, however, growth in the Washington metropolitan area and changes in land use and travel patterns have made the Beltway an integral part of the regional and local transportation systems.

At present, the Beltway has four through lanes in each direction with auxiliary lanes or collector-distributor roadways provided at several interchanges. Along its path lie the highly developed urban and environmentally sensitive areas of Springfield, Annandale, Merrifield, Tysons Corner, and McLean. Many dense commercial development, high-rise office buildings, numerous residential subdivisions, and parks and recreational areas are located in these areas.

Although still functioning as a bypass, the Beltway is now used primarily for travel to and from destinations within the region and is called the Fairfax County's Main Street. Each day, hundreds of thousands of local residents use the Beltway to travel to work, shopping centers, and other destinations throughout the metropolitan area. It also serves as the primary route for the transfer and delivery of local goods and services. The Beltway comprises only 3 percent of the total highway lane-miles in Northern Virginia and carries almost 11 percent of all trips made in the region each day.



Travel demand on the Beltway routinely exceeds capacity during peak periods and commonly results in extended periods of congestion. For many people, the Beltway is the preferred (and sometimes only) route for trips to and between residential communities, activity centers, and major employment locations in Fairfax County and elsewhere in the Washington metropolitan area. More than 75 percent of the motorists who travel on the Beltway begin or end their trip within Fairfax County, and 30 to 40 percent of these trips are to or from locations within 2 miles of the Beltway. Future growth of traffic volumes and off-peak trips will further lengthen the periods of congestion. Without additional roadway capacity, the level and duration of congestion will get worse on the Beltway and on other parts of the regional transportation network.

The high traffic volumes and insufficient capacity lead to operational problems such as reduced travel speeds, longer backups, and extended periods of congestion. Minor traffic incidents on the Beltway can cause delays, and major accidents can cause delays lasting several hours. Crashes on the Beltway happen most often during peak periods near interchanges, and rear-end collisions account for 44 percent of all crashes.

The current design of the Beltway and interchanges does not meet federal requirements. Entrance and exit ramps to the left, substandard acceleration and deceleration lanes, and tight loop ramps create challenging driving conditions. Interchange spacing is inconsistent. With some interchanges located less than a mile apart, entry and exit to the Beltway requires accelerating and decelerating traffic to merge within a relatively short distance. Connections with intersecting roadways are insufficient for current traffic volumes. Improvements are needed to alleviate safety and operational concerns, provide road design features consistent with current standards, add capacity for congestion relief, enhance transportation system linkage, and fulfill the goals of local and regional plans.

### **Description of the Capital Beltway HOT-Lane Concept**

The proposed Capital Beltway HOT (high occupancy toll) lanes will extend from Springfield immediately north of the Beltway Bridge crossing over the Norfolk Southern Railway to north of Dulles Airport Access and Toll Road. (Figure 2-a.1 illustrates the HOT-lane system plan.) This mainline roadway type consists of a continuous 12-lane system configured in the 4-2-2-4 typical section shown in Figure 2-a.2. The four-lane (two in either direction) inner directional roadways are dedicated for use by qualifying HOT-lane traffic and are separated from the adjacent general-purpose roadways by a 2-foot to 4-foot striped and a grooved pavement buffer. The existing eight (four in each direction) general-purpose roadways will remain. In addition to the beginning and ending points of the HOT lanes, five intermediate access/egress points to the HOT lanes will be provided through a combination of direct HOV to HOT direct ramps and a limited number of intermediate access points through entry/exit points in the buffer. The mainline general-purpose lanes connect to all of the interchanges from and to the right. Collector-distributor (C-D) roadways located at interchanges to minimize the possibility for movement conflicts and ensure safer traffic operations will be relocated to accommodate the proposed widening.



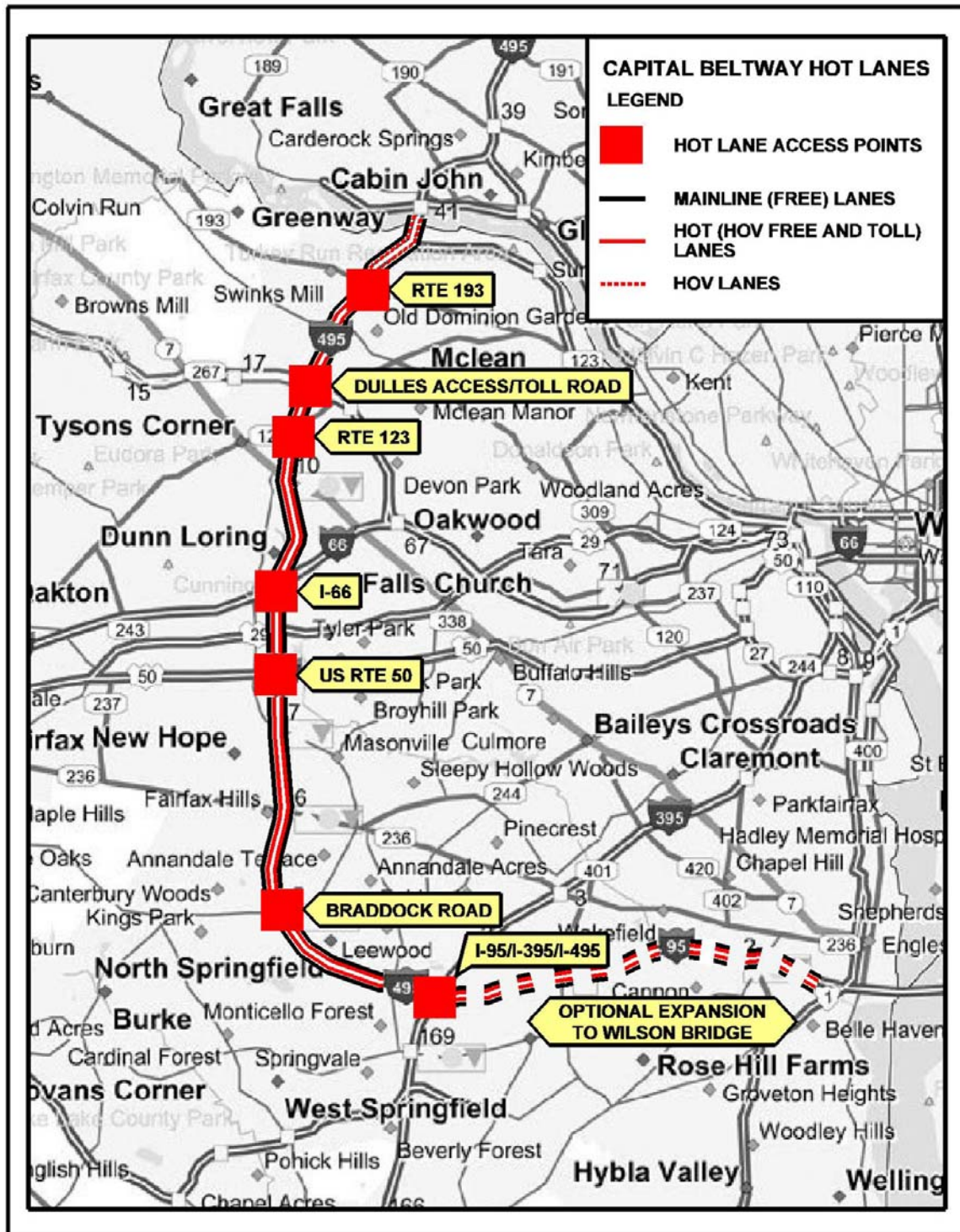
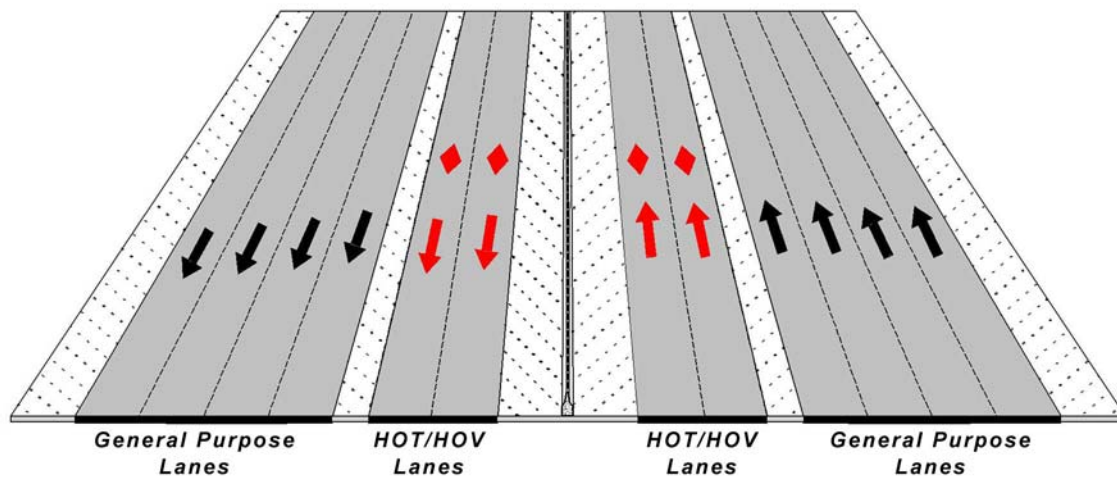


Figure 2-a.1. Capital Beltway HOT-Lane System Plan



**Figure 2-a.2. Proposed Capital Beltway HOT-Lane 4-2-2-4 Section**

### **Roadway Operation**

The addition of four HOT lanes on the Beltway will provide the needed new capacity, encourage greater car pooling than would result from traditional HOV lanes, and facilitate greater bus ridership by allowing reliable express bus use of the HOT-lanes/HOV network. Fluor Daniel projects the Capital Beltway HOT lanes could divert up to 15 percent of the 2015 traffic from the 8 free lanes. The HOT lanes will operate at 65 mph while the general-purpose (outside 8) lanes will operate at the current 55 mph. A Smart Tag will be required to use the HOT lanes. At intermediate access points where direct HOT ramps are not provided, traffic will use existing Beltway interchanges to reach the HOT lanes. These intermediate exit and egress points will be strategically located to make maximum use of the HOT lanes and ensure safe Beltway operation.

Left exits and entrances from the mainline and the C-D roadways, for non-HOT traffic, will be eliminated. Such connections, however, could be provided from the HOT lanes, and only for HOT-lane traffic at the above mentioned five interchanges.

Collector-distributor roadways are barrier-separated from the mainline roadways at interchanges and also between closely spaced interchanges to minimize movement conflicts and improve safety and traffic operations. Existing interchanges with C-D roadways will be rebuilt with C-D roadways. Generally, connection to interchanges is made via the collector-distributor roadways; however, at selected locations, direct access/egress will be provided from the general-purpose lanes.

At the northern end of the project, the 12-lane roadway configuration transitions to match the roadway cross section at Georgetown Pike (Route-193) Interchange south of the American Legion Memorial Bridge. Towards that interchange, the required transition in the I-495 mainline cross section begins after the Dulles Airport Access and Toll Road. Similarly, at the southern end of the project, the I-495 mainline cross section ties into the Springfield Interchange project immediately

north of the Beltway Bridge crossing over the Norfolk Southern Railway. At this location the Beltway cross section will consist of a 12-lane cross section.

### **Potential for System Expansion**

Although not part of this proposal, the Wilson Bridge approach project already under design and construction is highly compatible with the Fluor Daniel HOT-lane concept. At some future date, VDOT may wish to consider extending the HOT lanes as far as Telegraph Road to join up with that project.





## 2-b. VDOT PARTICIPATION

### Identify and fully describe any work to be performed by VDOT.

Fluor Daniel's concept is breaking new ground in providing innovative solutions to Virginia's transportation needs. This proposal, if selected, would be the first application of the popular HOT-lane concept in Virginia. Secondly, it would be the first PPTA proposal to suggest a public-private partnership as part of the completion of an ongoing location/environmental (Capital Beltway Study) effort. This study group has recently published a draft environmental impact statement (DEIS) dated March 2002 and held public hearings on May 28 to 30, 2002, in Fairfax Virginia.

Fluor Daniel representatives monitored public reactions to the three VDOT build alternatives presented at the public hearings. For a more detailed summary of Fluor Daniel's observations, see Tab 4-b: Community Support. As a result of the public's reaction, Fluor Daniel has modified one of VDOT's build alternatives, the "Barrier-Separated HOV." Fluor Daniel has combined it with elements of the "Concurrent HOV Alternative," the high occupancy toll (HOT) lane, included value pricing concepts, and developed the Fluor Daniel HOT-lane concept. The 12-lane HOT-lane concept serves as the basis of this proposal. To accomplish VDOT's objectives of providing the needed capacity for the Beltway with the lowest level of adverse environmental impact, the Fluor Daniel concept will need to be closely coordinated with the ongoing location study. Simultaneously, with this proposal, Fluor Daniel is submitting a summary of its concept to your location study consultant as an official public comment. Officially submitting this concept will help facilitate the objective environmental analysis of the concept. This coordination must be accomplished without compromising VDOT's objective role as required by the National Environmental Policy Act (NEPA) and specified in various FHWA regulations. VDOT under NEPA is required to evaluate the various agency and public comments on the widening alternatives presented against the no-build and then determine the best course of action. VDOT's decision will be documented in a final environmental impact statement (FEIS) and record of decision (ROD). If a build alternative is selected, it will be designated as the "preferred alternative." Following are the steps required by VDOT to facilitate the evaluation of the Fluor Daniel concept and its potential implementation.

VDOT financial obligations are addressed in Tab 3: Project Financing.

### As Part of the Detailed Proposal Submission

- Fluor Daniel will provide and pay for all design engineering to develop the HOT-lane concept.
- VDOT will provide independent and objective analysis of the Fluor Daniel concept submitted as a public comment and supplemented by the conceptual engineering provided for in the preceding bulleted item.



- Fluor Daniel will conduct, using an independent opinion survey firm, a statistically significant survey of registered Northern Virginia voters to determine citizen attitudes towards the Capital Beltway HOT-lane proposal concept.
- VDOT will, if the Fluor Daniel alternative provides the traffic, environmental, and financial benefits promised, consider the Fluor Daniel HOT-lane concept as a variation on the original build options as part of the ongoing location study decision and environmental documentation.

**Once Fluor Daniel is Selected for Negotiation**

- VDOT will (without compromising its objectivity in the EIS process) cooperate with Fluor Daniel who will be working in parallel with the ongoing VDOT Capital Beltway environmental study process. VDOT will consider the Fluor Daniel HOT-lane concept fully and fairly against the no-build and other build alternatives.
- All planning and environmental documents will be completed by VDOT.
- Fluor Daniel will provide all preliminary and final design leading up to the signing of a comprehensive agreement
- VDOT will authorize Fluor Daniel to initiate the permit application and assist in that effort.
- Fluor Daniel will execute a Marketing Program designed to increase local support and potential customers for the Capital Beltway HOT-lane project. This multimedia program will feature public experience in using HOT-lane operations throughout the United States.
- Fluor Daniel will conduct an investment grade traffic and revenue study to validate the proposed financial plan.

**When the Comprehensive Agreement is Signed (Which should not take place before the “preferred alternative” is officially selected)**

- Fluor Daniel will fix the total construction cost and schedule as part of the signing of the comprehensive agreement before financial close.
- VDOT will include the Fluor Daniel concept in the Metropolitan Washington Council of Governments Transportation Improvement Program and Constrained Long Range Plan.
- VDOT’s responsibility is to establish the basis upon which Fluor Daniel performs the proposed work and monitors our performance against this basis. The comprehensive agreement will set out these performance requirements.

- VDOT will provide assistance in coordination with federal, state, and local governments, MWCOG, and other interested agencies.
- VDOT also has more general responsibilities, which will include being the owner of the facility after final acceptance and being responsible for operating and maintaining the road directly or through qualifying management contracts with private operators.

As an alternative to this approach, Fluor Daniel offers two options for the long-term maintenance of the segment of the Beltway associated with the HOT-lane project:

- At the option of VDOT, Fluor Daniel is prepared to provide an asset management option for the long-term operation and maintenance of the Capital Beltway improvements as part of the detailed proposal submission. VMS, Inc., a recognized leader in the development and implementation of asset management programs, will be the responsible contractor who will plan, manage, and oversee all work. VMS will provide comprehensive programs to address long-term pavement maintenance, bridge operations, and traffic control features, excluding the toll system operation and maintenance that will be covered under a separate maintenance contract option. An initial contract of 5 years with 3 additional 5-year options or a maintenance contract of 20 years would be offered.
- At the option of VDOT, Fluor Daniel is prepared to provide a toll system operation and maintenance contract for the Capital Beltway HOT-Lane operation as part of the detailed proposal submission. An initial contract of five years with three additional five-year options would be offered.





## 2-c. Permit Requirements

**Include a list of all federal, state and local permits and approvals required for the project and a schedule for obtaining such permits and approvals. Identify which, if any, permits or approvals are to be obtained by VDOT.**

### Section 404 and 401 Permits

To gain approval for proposed impacts to streams and wetlands, Fluor Daniel will use the Joint Permit Application (JPA) process administered by the Virginia Marine Resource Commission (VMRC). The application will be routed through VMRC to the U.S. Army Corps of Engineers (COE) and Department of Environmental Quality (DEQ). Permits will be needed for the proposed impacts from all three agencies. These agencies will coordinate with several other agencies, including but not limited to U.S. Environmental Protection Agency (EPA); U.S. Fish and Wildlife Services (USFWS); National Marine Fisheries Service (NMFS); Coast Guard (CG); Virginia Department of Historic Resources (VDHR); and Virginia Department of Conservation & Recreation (VDCR).

The application process will take three to eight months, with six months being a reasonable assumption. The overall permit preparation/acquisition period would be 16 to 18 months with a best-case/worst-case range of 9 to 24 months. This process can run concurrently with the final EIS development.

### Expediting the Permit Process

Key approaches the Fluor Daniel team has successfully used to expedite the VMRC/COE/DEQ permit process (i.e., the 404/401 permits) include:

- Submit a complete application – in lieu of the piecemeal approach often employed
- Identify and conceptually design proposed compensatory mitigation before permit application
- Integrate, or concurrently process, the 404/401 permit process with the EIS process

The Fluor Daniel team has a track record of expeditious approval of 404/401 permits for the Route 895 project and the Richmond Airport Connector using several of these approaches. Substantial time can be saved by:

- Starting the 404/401 permit process *immediately*, while the EIS is being completed
- Integrating the 404/401 permit process with NEPA to the maximum extent possible while the EIS is being finalized (in lieu of the more traditional sequential NEPA and Section 404 processes), following the “Integrated NEPA/404 Implementation Guide for Transportation Projects”

### **Compensatory Mitigation**

The VMRC, COE, and DEQ permits will require compensatory mitigation for the proposed stream and wetland impacts. To be conservative, Fluor Daniel anticipates a 2:1 ratio for all wetland impacts (or 10.12 acres of wetlands versus 9.71 acres estimated in the draft EIS for Barrier-Separated HOV) and a 1:1 stream restoration ratio.

There are numerous parks with degraded stream reaches in Fairfax County. Thus the opportunity for stream restoration is plentiful. Typically, however, these areas are forested and relatively expensive to restore due to the high degree of down cutting, the need to minimize tree disturbance, and the need to truck out excess soil material since the forest cover precludes depositing material nearby. Costs in the \$200 to \$250 per lineal foot range are not uncommon in this situation. Practicable wetland mitigation sites in the 10±-acre range are relatively difficult to find in Fairfax due to land prices and land cover. The Fairfax County Park Authority owns at least one suitable site (along Cub Run adjacent to Stonecroft Boulevard), and numerous sites in the same Hydrologic Unit Code are available in Prince William County, Loudoun County, and Fauquier County. Alternatively, several wetland banks also are operating that serve this area. Costs range from \$85,500 to \$125,000 per acre – depending upon payment terms and size. Payment to the In-lieu Fee Fund operated by The Nature Conservancy may be another alternative.



## 2-d. SOCIAL, ECONOMIC, AND ENVIRONMENTAL EFFECTS

**Without completing an Environmental Impact Statement, identify any anticipated adverse social, economic and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts. Identify the projected positive social, economic and environmental impacts of the project.**

### Social

The Beltway has become an important part of the regional transportation system but in many ways serves as a main street for Fairfax County. The neighborhoods around the Beltway have fully developed over the years such that any improvements beyond the existing right-of-way can do significant damage to the existing social network. A citizen at one of the EIS public hearings expressed her concern this way, “Why can't you design the Beltway around the people and not the cars?” This concept is exactly what Fluor Daniel proposes to do and is evidenced in the fact that its HOT-lane concept potentially stays entirely within the existing right-of-way preserving the established social environment.

### Economic

The economic benefits of the Fluor Daniel proposal in terms of attracting or maintaining competitive industries to Virginia are discussed in Tab 5-b: Economic Benefits. The major positive benefit of the Fluor Daniel proposal not found in any of the current EIS build alternatives is the revenue-producing aspect of the HOT-lane operation. This feature makes it possible to help finance the project permitting VDOT to improve one of its highest priority roads for which no funding has been allocated to date.

### Environmental

The Capital Beltway Draft Environmental Impact Statement (DEIS) dated March 2002 documents in detail the social, economic, and environmental effects of the three proposed build alternatives. Since the Fluor Daniel concept was developed after listening to the concerns stated at the May 28 to 30 public hearings, many of the most damaging negative impacts have potentially been eliminated from the HOT-lane alternative including:

- Displacement of public and private properties
- Public parks, parkland required and other adverse effects to cultural resources
- Additional right-of-way required
- Hazardous material sites impacted



While the above potential impacts may have been eliminated by virtue of the Fluor Daniel concept potentially staying within the existing right-of-way, there may be impacts that will result from the increased traffic volume and more pavement width inherent in widening the Beltway from 8 to 12 lanes. Some of those additional factors include:

### ***Air Quality***

The HOT-lane concept, when combined with value pricing, has proven to be air quality friendly based on a variety of studies and actual performance measurements on existing HOT-lane operations. A short summary of the San Diego HOT-lane air quality experience follows. Fluor Daniel is confident that the proposed Beltway HOT lanes will perform well when compared to the current EIS build and no-build alternatives.

Even when the air quality analysis on our concept is available, it will still be a study rather than fact. Fluor Daniel suggests VDOT consider the recent results of an actual HOT-lane operation: the I-15 FasTrak (HOT) lanes in San Diego, California. This HOT-lane operation started as a pilot project eight miles long with two reversible lanes. It is now in the process of being widened to two lanes, two in each direction, and lengthened to twenty miles. During the HOT-lane pilot project period, annual air quality studies were conducted to evaluate their effectiveness compared to a non-HOT highway operation. The most recent third-year study results demonstrate scientifically that HOT lanes help improve air quality.

This third-year air quality study is one of 12 studies conducted to evaluate the I-15 FasTrak/value pricing pilot project. It was designed to evaluate the claim that HOT lanes are more air quality friendly than the traditional road-widening approaches used by the California Department of Transportation (CALTRANS). San Diego State University conducted the study for SANDAG in 2001. For study control purposes, the eight-mile FasTrak/HOT-lane facility was compared with a similar eight-mile long section of I-8, also in the San Diego area, and a traditional interstate highway operation. The text of the full report is available at [www.sandag.org/fastrak//pdfs/yr3\\_air\\_quality.pdf](http://www.sandag.org/fastrak//pdfs/yr3_air_quality.pdf). Following are relevant highlights from those SANDAG report conclusions:

- The FasTrak program moderated emission levels along the I-15 corridor during a period when emission levels increased substantially along the I-8 corridor
- Emission levels increased for three (VOC, NO<sub>x</sub>, and CO) pollutants along the I-15 corridor in the a.m. peak period and for all four pollutants in the p.m. period, whereas along I-8 emission levels increased for all four pollutants in both peak periods. The average relative increases along I-8 were three times larger than the average increases along I-15 in the a.m. peak period. In the p.m. peak period, this difference was even greater. The average relative increases along I-8 were almost five times as large as the average relative increases along I-15 in the p.m. peak period.

- Differential changes in average emission levels along the I-15 main lanes and express lanes in the fall study waves reflect the influence of the FasTrak program in displacing traffic from the main (free) lanes to the express (HOT) lanes.
- No factors other than the FasTrak program have been identified that could be expected to have reduced or mitigated increases in I-15 emission levels. From this perspective, and given greater weight to the more voluminous fall data, one can reasonably conclude that the FasTrak (HOT lanes) program influenced and, in particular, moderated emission level along I-15 during the study period.

### ***Noise Impacts***

May be less as a result of the elimination of the interchange expansions included in the other build alternatives.

The noise impact could be expected to rise in a manner similar to the EIS build alternatives.

### ***Wetlands, Length of Streams, and Floodplain Encroachments***

Impacts to surface waters and wetlands will occur and be similar in magnitude to what is projected in the current draft EIS. Since the expected project footprint is smaller than the current alternatives, impacts to these resources should be slightly lower. For planning purposes, Fluor Daniel conservatively estimates the wetland impact at approximately 5 acres and 8,250 lineal feet of stream impacted.



## 2-e. CRITICAL SUCCESS FACTORS

### List the critical factors for the project's success.

The overall goal of this proposal is to widen the 8-lane Capital Beltway by 4 new lanes for approximately 14 miles from the American Legion Bridge to the Springfield Interchange at I-395. The new lanes will be high occupancy toll (HOT) lanes, which will essentially operate as express lanes with five access points, between their beginning and end, bypassing all other interchanges. Qualifying HOVs (car pools), express transit buses, and emergency vehicles will have unrestricted access to the HOT lanes. All others will pay a user fee to use the lanes.



The successful delivery of a private-public partnership project requires a significant amount of dedication and hard work. But the result is worth the effort as we all learned in May 2002 when Governor Warner cut the ribbon on Fluor Daniel's Pocahontas Parkway. Based on actual experience with PPTA projects, Fluor Daniel has identified eight factors that are truly critical to the success of this project.

- **Need**

The congestion on the Beltway speaks for itself. The need for widening the Beltway has been documented in numerous studies and has been highlighted in the Description of the Existing Facility section of Tab 2-a and Tab 5: Project Compatibility.

- **Selection of this Proposal**

Fluor Daniel's concept achieves the goal of providing a 12-lane Beltway with a minimum of environmental impact by August 2008. The four new express HOT lanes also preserve future mobility. The HOT-lane concept can be supported by a majority of the public and local government officials, and as a bonus it will provide new revenue that helps pay for itself.

- **Reduces Beltway Congestion and Preserves Capacity for the Future**

Fluor Daniel projects the Capital Beltway HOT lanes could divert up to 15 percent of the 2015 traffic from the 8 free lanes. The Beltway is already exceeding traffic level of service (LOS) F. With any of the current EIS build alternatives, LOS F is expected to return within 5 to 10 years according to DEIS traffic studies. Implementation of the Fluor Daniel concept means that VDOT will be able to manage the LOS on a minute-by-minute basis, if desired, using variable pricing to assure an acceptable LOS will be available on the HOT lanes far into the future.



The resultant benefit for the traveling public is, at a point 20 years or more in the future, HOV express buses traveling for free and cars paying a user fee will be able to travel at the same speed and the same level of reliability they did on the day the HOT lanes were opened.

- **Minimizing Environmental Impact**

Fluor Daniel's HOT-lane concept will allow the needed Beltway widening to be accomplished with the lowest possible negative environmental impact. Consider that this concept potentially has: no displacement of public and private properties; no taking or significant impacts on protected resources like public parks and other cultural resources; no new right-of-way; no disturbance to any potential hazardous material sites; and an air quality friendly track record in reducing emissions by getting more people in fewer cars. Fluor Daniel proposes to let VDOT's environmental consultant independently evaluate and verify the benefits of this concept in comparison with the current build and no-build EIS options. Early consideration of this concept by VDOT will allow the Fluor Daniel concept to be considered and fully evaluated as part of the ongoing Capital Beltway decision and documentation process. Such timely action will allow a seamless environmental record to be created for the concept if the build option is selected.

- **Innovative Financing**

Since VDOT has no money programmed for the Beltway widening, using Fluor Daniel's PPTA plan of finance allows such improvements to be constructed years, maybe decades before traditional funding would permit. Financing this major priority project, which would probably have first claim on scarce transportation dollars, with a new source of revenue allows those VDOT dollars to be transferred to other transportation needs.

- **Public Support**

Fluor Daniel set as a goal for the Beltway HOT-lane widening concept to provide the additional capacity to move as much traffic as possible while causing the least amount of displacement. The Fluor Daniel concept achieves this goal, and, as a result, we anticipate it will also gain wide public acceptance. Recent opinion surveys indicate strong Northern Virginian willingness to try HOT lanes if they help improve current congestion and provide the traveling public with more choices beyond sitting in traffic. To assure that public support develops, Fluor Daniel is willing to pay for a Hot-Lane Marketing Program as part of the public involvement strategy.

- **A Proven and Capable Team**

Fluor Daniel has the proven ability to develop and execute innovative approaches for complex projects. Fluor Daniel is the only firm that has constructed and opened for service a PPTA project, the Pocahontas Parkway. Fluor Daniel has committed the project director for that project, Herb

Morgan, to the successful completion of the Capital Beltway HOT-Lane project – proven leadership VDOT can rely upon.

- **Local Designer and Contractor Involvement**

Fluor Daniel has assembled a team that includes a lead design firm (HNTB) and lead construction firm (Lane) that have extensive experience with the Beltway and are known and respected by both VDOT and their peers. From a design point of view, nobody knows the Beltway better than HNTB.

## 2-f. Project Schedule

**Identify the proposed schedule for operator's work on the project, including the estimated time for completion.**

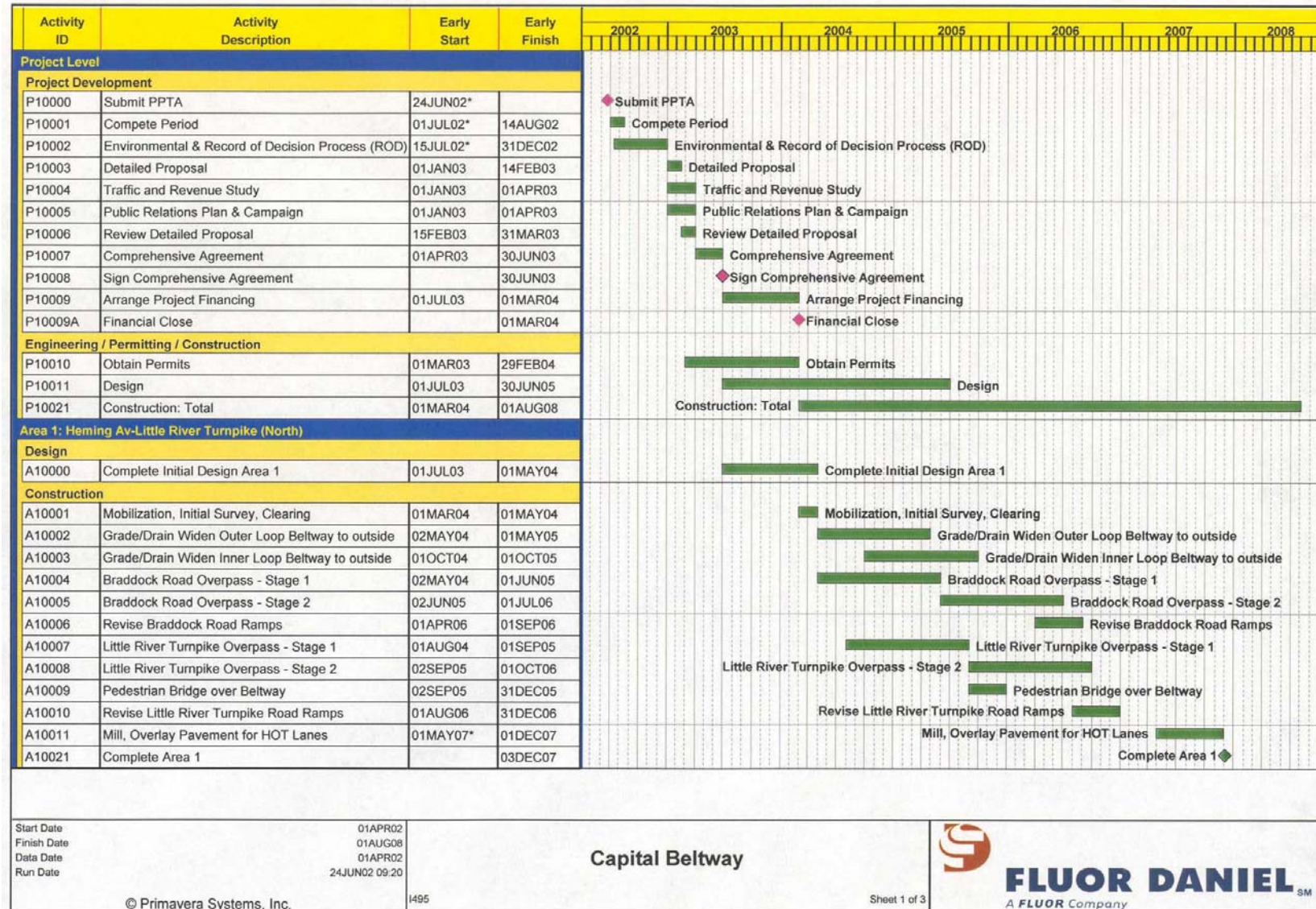
The Fluor Daniel team has prepared a preliminary project schedule, which follows. The project has been broken down into five major functions, project development, and four construction areas. Construction Area 1 runs from the southern limit of the project to the Little River Turnpike. Area 2 continues from the Little River Turnpike to the I-66 Interchange. Area 3 continues from the I-66 interchange to Route 7. Area 4 continues from Route 7 to the northern limit of the project at the Route 193 Interchange. Four separate construction areas will allow four teams to start work on different sections of Beltway simultaneously. Each team will coordinate all construction activities as well as lane closures in its area. The work zones within each area will be separated by temporary traffic barriers to protect both the traveling public and the Fluor Daniel team workers.

Within each construction area, the bridge construction will be staged. Stage 1 for each structure involves the widening of the existing structure. Stage 2 would detour traffic onto the widened structure then replacing the existing structure. The structural work will most likely be the critical path of the Beltway project, but weather restrictions on the final roadway paving is a top priority. Fluor Daniel recognizes the necessity of extensive night-shift work to carry out the final pavement activities while keeping to a minimum the disruption to the traveling public to complete the project on schedule.

The current Beltway experience of Kirk Junco, the team construction manager, will be critical in assuring the successful completion of this aggressive schedule. Kirk is presently managing the bridge and roadwork on a major phase of the complex I-95/I-395/I-495 Interchange project. Kirk has demonstrated his ability to coordinate a vast work force.

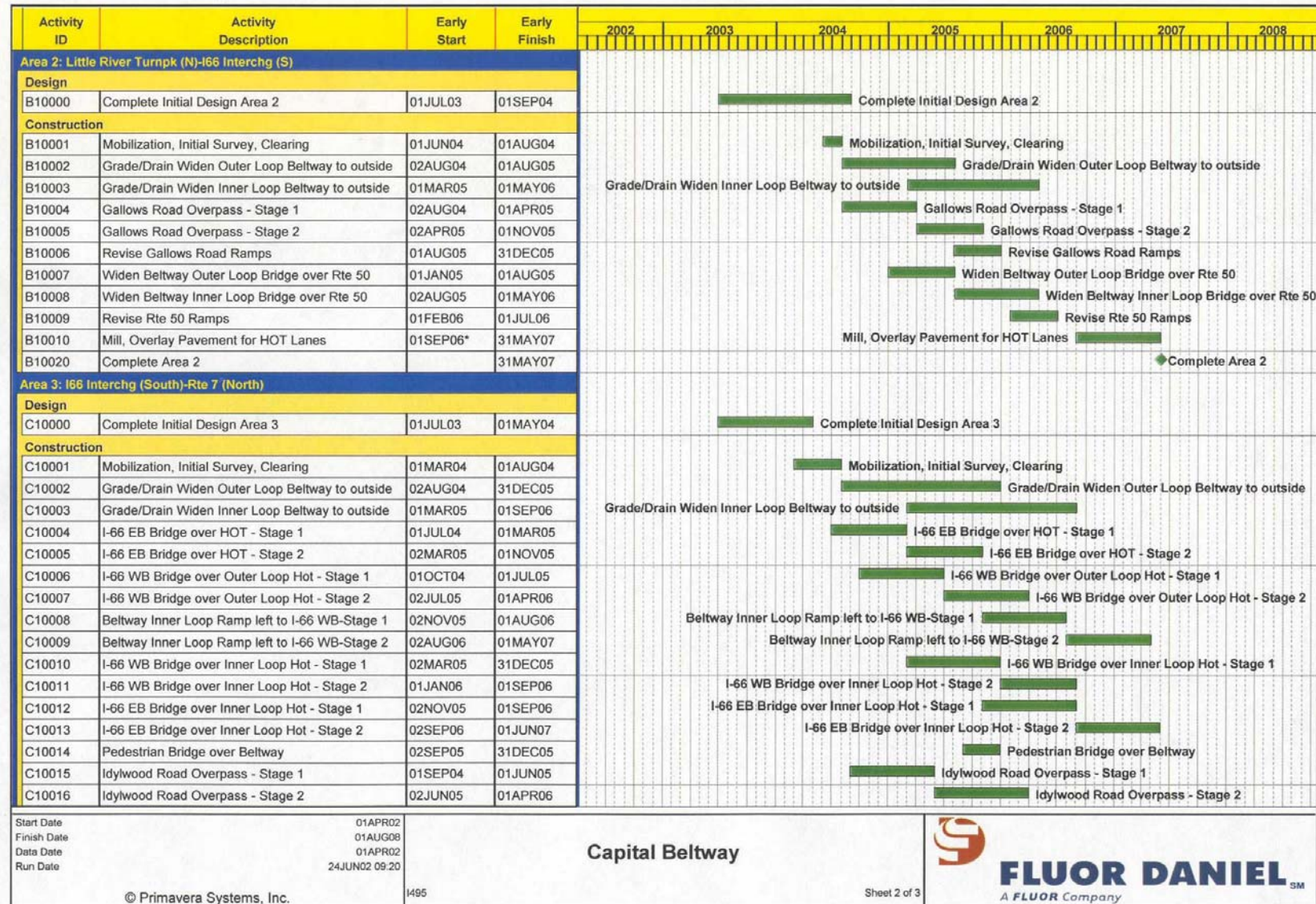


**Tab 2: Project Characteristics**  
2-f Project Schedule



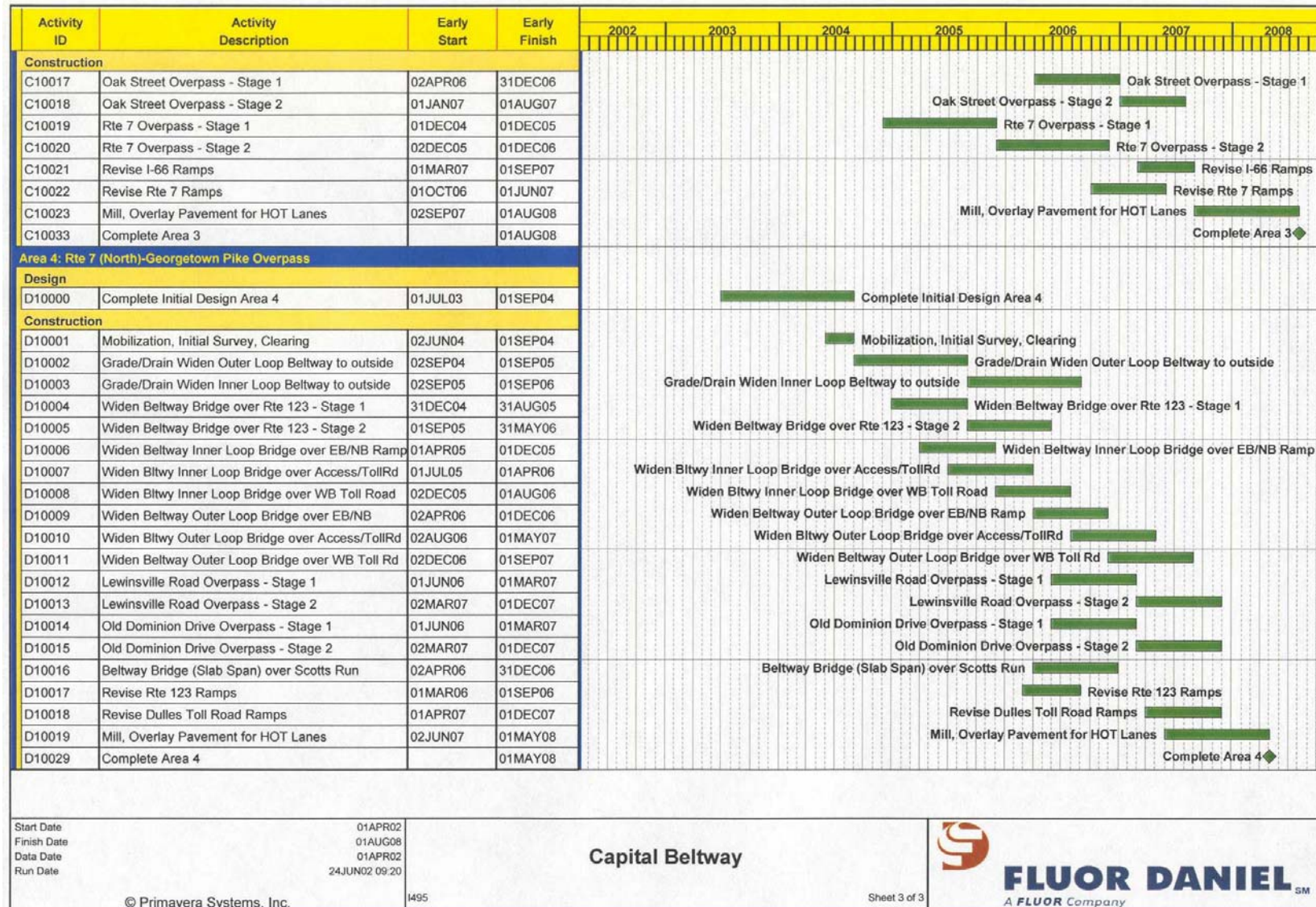


**Tab 2: Project Characteristics**  
2-f Project Schedule





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2-f Project Schedule





## 2-g. RISK ALLOCATION

### **Propose allocation of risk and liability for past agreement work and assurances for timely completion of the project.**

Fluor Daniel will assume responsibility for the financing, design, construction, costs, and timely delivery through a fixed-price contract. The completion date will be subject to liquidated damages, and Fluor Daniel will sign a comprehensive agreement providing for these obligations. This agreement will be backed up by a corporate parent guarantee. Fluor Daniel's current commitment and performance in delivering the Pocahontas Parkway (Route 895) project using similar guarantees demonstrate our ability to support the contract with investment grade credit. The Fluor Daniel team is committed to the success of the Capital Beltway HOT lanes widening and is ready to start the development process at its own risk.

Fluor Daniel designs will be subject to VDOT review. All design agreements will provide E&O insurance coverage, and all significant subcontractors will be fully bonded. Fluor Daniel team firms will provide construction engineering and inspection with oversight by VDOT.

Utilization and revenue risk is borne by the bondholders and the federal government through the TIFIA loan. Project debt is issued without any recourse to VDOT or the Commonwealth.

Since this PPTA proposal is somewhat unique, starting while the VDOT location study is still ongoing, it is useful to summarize the risk items Fluor Daniel is proposing to pay for or assume in chronological order:

#### **As Part of the Detailed Proposal Submission**

- Provide design engineering to develop a HOT-lane concept for independent and objective analysis by VDOT's Capital Beltway environmental consultant submitted as part of the detailed proposal.
- Conduct an independent opinion survey, for a statistically significant number of registered Northern Virginia voters, to determine current citizen attitudes towards the Capital Beltway HOT-lane concept.
- Work with VDOT staff to develop an environmental documentation process for the HOT-lane project that meets all federal and state environmental and procedural requirements and regulations.

### **Once Fluor Daniel is Selected for Negotiation**

- Work in cooperation and in parallel with the ongoing VDOT Capital Beltway environmental study process.
- Begin the design required to achieve financial close.
- Begin the process to obtain all required permits once the appropriate environmental and documentation requirements are established.
- Initiate a Marketing Program designed to increase the already significant local support and potential customers for the Capital Beltway HOT-Lane project. This multimedia program will feature real-citizen experience in using or knowledge of actual Hot-lane operations throughout the United States. This approach places the burden of selling the toll idea to area residents on Fluor Daniel – not VDOT.
- Commence an investment grade traffic and revenue study to validate the proposed financial plan.

### **When the Comprehensive Agreement is Signed**

- Fluor Daniel will complete all project development activities.
- Fluor Daniel will fix the total construction cost and schedule before financial close.

### **Options**

At the option of VDOT, Fluor Daniel is prepared to provide an asset management option for the long-term operation and maintenance of the Capital Beltway improvements as part of the detailed proposal submission. VMS, Inc., a recognized leader in the development and implementation of asset management programs, will be the responsible contractor that will plan, manage, and oversee all work. VMS will provide comprehensive programs to address long-term pavement maintenance, bridge operations, and traffic control features, excluding the toll-system operation and maintenance that will be covered under a separate maintenance contract option. An initial contract of 5 years with 3 additional 5-year options or a maintenance contract of 20 years would be offered.

At the option of VDOT, Fluor Daniel is prepared to provide a toll system operation and maintenance contract for the Capital Beltway HOT-lanes operation as part of the detailed proposal submission. An initial contract of five years with three additional five-year options would be offered.

## 2-h. PROJECT OWNERSHIP AND OPERATION

**Clearly state the assumptions related to ownership, legal liability, law enforcement and operation of the facility.**

VDOT will have ownership, maintenance, and operation responsibilities upon completion of construction. Fluor Daniel is offering VDOT two alternatives to this approach:

- At the option of VDOT, Fluor Daniel is prepared to provide an asset management option for the long-term operation and maintenance of the Capital Beltway improvements as part of the detailed proposal submission. VMS, Inc., a recognized leader in the development and implementation of asset management programs, will be the responsible contractor to plan, manage, and oversee all work. VMS will provide comprehensive programs to address long-term pavement maintenance, bridge operations, and traffic control features, excluding the toll-system operation and maintenance that will be covered under a separate maintenance contract option. An initial contract of 5 years with 3 additional 5-year options or a maintenance contract of 20 years would be offered.
- At the option of VDOT, Fluor Daniel is prepared to provide a toll system operation and maintenance contract for the Capital Beltway HOT-Lane operation as part of the detailed proposal submission. An initial contract of five years with three additional five-year options would be offered.

Law enforcement and legal liability remain the responsibility of the appropriate government entities. The right to receive tolls will be assigned to the issuer of the bonds.

**2-i. PHASED OPENINGS**

**Provide information on any phased (partial) openings proposed prior to final completion of the work.**

Fluor Daniel anticipates opening all new HOT lanes at the same time.



## Tab 3: Project Financing

### 3-a. ESTIMATED COST

**Provide a preliminary estimate and estimating methodology of the cost of the work by phase and/or segment (e.g., planning, design, construction).**

Fluor Daniel is proposing to develop, design, and construct the Capital Beltway HOT-Lane project for a fixed price and deliver it on a date-certain schedule under a comprehensive agreement similar to that used on Route 895. Our current conceptual cost estimate for this project is \$630 million. Fluor Daniel is offering two unpriced options for fulfilling VDOT's operational and maintenance responsibilities, one for the toll system and a second for the total facility asset management. This conceptual price includes the project as described in 2-a and assumes directional ramp connections will be provided at the Dulles Toll Road and I-66 Interchanges only. Other intermediate access points will be provided by breaks in the buffer that separates the HOT lanes from the general-purpose lanes. This price assumes a completion date of August 1, 2008.

#### Conceptual Estimated Costs

Grading	\$60,000,000
Paving	105,000,000
Retaining Walls	60,000,000
Structures	210,000,000
Miscellaneous	85,000,000
Toll Systems	15,000,000
Design/QC/Program Management	95,000,000
Total	<u>\$630,000,000</u>

#### Optional Additional Direct Ramp Access Costs (Not included in Fluor Daniel Price)

The intermediate access points, not served by direct ramp access under the Fluor Daniel conceptual price, could be added in a later phase as state funding permits. Fluor Daniel anticipated the need for such additional ramps and accommodated them in the conceptual design plans. If additional funding is identified during the negotiation phase, any or all of these ramps could be included by increasing the conceptual cost estimate by the following amounts:

Braddock Road Interchange	\$28,000,000
Route 50 (Arlington Blvd.) Interchange	24,000,000
Route 123 (Chain Bridge Road)	24,000,000



**Tab 3: Project Financing**  
*3-a Estimated Cost*

The above costs do not include any right-of-way or utilities since Fluor Daniel feels there is the potential for avoiding displacement and property taking at most if not all locations. This aspect will be studied in detail as part of the detailed proposal preparation.

During the comprehensive agreement negotiations between VDOT and Fluor Daniel, changes to the conceptual/preliminary configurations desired by VDOT can be incorporated into the project scope and cost.

Fluor Daniel welcomes the opportunity to discuss the basis of our conceptual estimate and schedule with VDOT.



**3-b. DEVELOPMENT OF THE PLAN OF FINANCE**

**Submit a plan for the development, financing and operation of the project, showing the anticipated schedule on which funds will be required; and proposed sources and uses for such funds.**

The Fluor Daniel team will work very closely with VDOT and Fairfax County to develop and implement a cost-effective financing strategy for the proposed Capital Beltway HOT Lanes. By taking advantage of the significant expertise and resources available in the private sector, we will create a capital structure for the project that allows tolls to be maintained at the levels appropriate to the identified policy objectives while maximizing the return on any public-sector investment that may be required.

Based upon the preliminary traffic and revenue analysis prepared by Vollmer Associates LP, Bear Stearns has developed a preliminary plan of finance that relies upon a capital markets toll revenue bond issuance, a loan from USDOT under the TIFIA program, and a contribution from the governmental sponsors.

As a starting point for that effort, we have analyzed numerous configurations and tolling strategies for the project, including a 4-2-2-4 free-lane/HOT-lane configuration, a 3-2-2-3 configuration, and a 3-3-3-3 lane configuration. After extensive analysis and discussion, we believe that the optimal strategy, based on financial, operational, and policy considerations, is to build the project using a 4-2-2-4 configuration (see Tab 2-a). This approach ensures that the project will not be eliminating any current, toll-free capacity but will add 50 percent additional capacity.

**Project Development**

Upon execution of a comprehensive agreement between VDOT and the Fluor Daniel team, we will mobilize the resources needed to develop a fixed construction price quote and guaranteed completion schedule. In addition, we will undertake the more detailed traffic and revenue analysis that is required to access the capital markets. The development effort should take approximately 8 months (see Tab 2-d), and we anticipate spending nearly \$5 million to complete the effort.

To expedite development of the project, we request that VDOT provide continued responsibility for completion of the environmental review process.

**Tab 3: Project Financing**  
*3-b Development of the Plan of Finance*

## Financing

For purposes of our conceptual plan of finance, we have assumed that tax-exempt toll revenue bonds would be issued in early 2004 to finance most of the cost of the project. Bond proceeds would also be used to capitalize interest during construction, to fund necessary reserves, and to pay associated legal and financing expenses. The Fluor Daniel team will work with VDOT to find or create an appropriate issuer for the project debt.

## Sources of Funds

Senior Current Interest Bonds	\$269,115,000
Senior Capital Appreciation Bonds	104,062,094
Subordinated TIFIA Loan	120,836,744
Local Government Investment	177,140,000
Investment Earnings	92,958,088
Total Sources	<u>\$764,111,926</u>

## Uses of Funds

Project Costs	\$630,000,000
Issuance Costs	9,329,427
Capitalized Interest	87,462,375
Debt Service Reserve Fund	37,317,709
Contingency/(Shortfall)	2,414
Total Uses	<u>\$764,111,926</u>

Fluor Daniel proposes to take responsibility for the capital markets debt issuance and take the lead in the negotiation of the TIFIA loan, seeking only VDOT's sponsorship as required by the relevant federal guidelines. The legal structure proposed will involve a private corporation that will serve as the statutory Operator under the PPTA. This corporation will have a Board that will represent the project and local government interests and will have the right to collect tolls on the facility. Fluor Daniel will investigate all applicable alternatives for issuance of the project debt, including having the private corporation issue the debt directly, in a manner similar to the role of the Pocahontas Parkway Association for the 895 project, and issuing through an appropriate local conduit, such as the Fairfax County Economic Development Authority. Fluor Daniel will work with the Department and the County to collectively choose the legal structure best suited to the project's and its objectives.

## **Operations**

Fluor Daniel proposes an arrangement similar to the Pocahontas Parkway Project, where VDOT will operate and maintain the facility after completion. This structure permits the gross pledge of toll revenues that has been assumed for the Plan of Finance, providing significantly greater capital markets debt capacity. Under this arrangement, VDOT retains the flexibility to operate the facility itself or arrange for a private operator under terms consistent with qualified management contract limitations placed by the Treasury on facilities financed with the proceeds of tax-exempt bonds.

Fluor Daniel has had discussions with VMS, Inc., regarding providing an up to 20-year asset management contract at the option of VDOT. VMS has committed to providing these services if desired by VDOT. Furthermore, Fluor Daniel will identify a qualified toll system operator to provide a maintenance management contract also at the option of VDOT. If the options are exercised, Fluor Daniel will provide a scope of services and price as part of the detailed proposal submission. Both contracts would be directly with VDOT.

The Fluor Daniel team will place considerable importance on designing the improvements in a manner that facilitates efficient operation and maintenance, and we will provide warranties and/or insurance to cover certain aspects of the design and construction work after completion.

Net project revenues available after payment of debt service are expected to be more than sufficient to cover anticipated operating costs and maintenance expenses.

**3-c. KEY ASSUMPTIONS OF FINANCIAL PLAN**

**Include a list and discussion of assumptions (user fees or toll rates, and usage of the facility) underlying all major elements of the plan.**

Key assumptions used at this stage of project development include:

**Moderate Increases in Traffic and Toll Rates**

Vollmer Associates LP expects average weekday traffic on the Capital Beltway Express Lanes will range between 29,000 and 40,000 vehicles in 2005. Assumed annual growth in toll traffic following the ramp-up period of two years averages approximately 1 percent, an extremely conservative rate of growth that reflects the intention to maintain a free-flow of traffic on the express lanes by raising toll rates. Toll rates in the opening year range from \$1.00 (off-peak hours) to \$4.18 (peak hours). The effective annual increase in toll rates thereafter, primarily due to inflationary adjustments, averages less than 3.3 percent annually.

**Gross Revenue Pledge**

The conceptual plan of finance assumes that investors are given a first lien on all toll revenue to maximize potential debt capacity. Though projected revenue available after payment of debt service is more than sufficient to cover assumed operating expenses, VDOT will need to commit to loan the project any funds needed to continue operations if for some reason toll revenues are not sufficient. The Virginia Department of Transportation provided a similar backstop on operations to facilitate the financing for the Route 895 project.

**1.75x Minimum Debt Service Coverage**

The debt service coverage required by rating agencies and credit enhancers for start-up toll facilities varies based on the amount of local economic growth needed to achieve the traffic projections, the anticipated toll elasticity of the users (sensitivity to toll rate increases), and liquidity considerations (funded reserves and provisions for capturing excess cash flow). For purposes of the conceptual plan of finance, we have assumed 1.75x minimum debt service coverage. Increasing the requirement by 0.25 (i.e., 2.00x) would decrease bond proceeds by approximately \$40 million, with a \$50 million increase in bond proceeds if the assumed minimum coverage ratio is lowered to 1.50x.



**Debt Sold Without Credit Enhancement**

The conceptual plan of finance assumes an average tax-exempt borrowing cost of approximately 6.65 percent. This assumption represents a slightly higher cost of borrowing that would be found currently, as the assumed timing for the capital markets issue raises the possibility that market rates may not be as favorable. It may be possible to obtain third-party credit enhancement, such as a municipal bond insurance, that would significantly reduce the effective borrowing cost and thereby increase the potential amount of bond proceeds. Potential increase in debt capacity could range between \$40 million and \$60 million depending on the cost of the credit enhancement and the resulting decrease in interest rates.

**No Competing Facility**

To achieve investment grade credit ratings on the senior project debt, VDOT will have to agree not to add additional free lanes or other directly competing enhancements until the project debt is repaid or restructured to accommodate new capacity.

**Public-Sector Investment to Close Any Funding Gap**

The tax-exempt market has been very receptive to start up toll projects and is a cost-effective way to secure construction financing. Because of IRS rules and regulations governing the issuance of tax-exempt bonds, however, accessing the municipal market precludes any direct equity investment in the project by private entities. Therefore, if sufficient tax-exempt debt cannot be raised to fully fund construction, we have to assume that appropriate public-sector investments would be secured to cover the shortfall. Potential funding options and strategies are discussed in Tab 3-e: Local, State, or Federal Resources.

Additional assumptions include:

- Accessing the tax-exempt markets to achieve the lowest possible cost of capital.
- The Beltway will be widened to 12 lanes with the center 4 lanes operating as HOT lanes reserved for traffic that will pay tolls.
- Tolls will vary depending on the time of day and level of congestion. Initial maximum tolls would be \$4.18 for 2005 and \$5.62 for 2015. Initial off-peak tolls would be \$1.00 for 2005 and \$1.50 for 2015.
- Qualifying HOV (HOV-3 for the financial analysis) vehicles, public buses, and emergency vehicles will be able to access the HOT lanes for free.

**Tab 3: Project Financing**  
*3-c Key Assumptions of Financial Plan*

- Tolls will be collected electronically using transponders (Smart Tags) only.
- Upon financial closing Fluor Daniel will receive a development success fee, which is included as part of the \$630 million conceptual cost estimate.
- VDOT will continue to process the environmental documents and record of decision.
- VDOT will provide any required assistance to obtain permits for project components in a timely manner.
- VDOT will operate and maintain all corridor improvements when completed.
- Fluor Daniel will provide construction inspection services overviewed by VDOT.
- VDOT will provide assistance in coordination with federal, state, and local agencies.
- No right-of-way or utilities have been included.
- VDOT must expressly confirm its acceptance of all VDOT responsibilities and obligations described in this proposal before accepting the conceptual price quoted by Fluor Daniel.
- Fluor Daniel's price is conditioned upon the use of the design-build delivery method and a comprehensive agreement acceptable to both parties will be executed.
- This proposal is valid for six months or for such further period as the parties may mutually agree.
- Fluor Daniel will provide a Payment and Performance Bond for 100 percent of the contract value. After Final Acceptance, the performance bond shall be reduced to 20 percent of the original amount thereof for the duration of the Fluor Daniel warrantee.
- Fluor Daniel provides a five-year warrantee on workmanship and materials.
- The HOT lanes will be posted for higher speed limits than the adjacent free lanes by at least 10 mph.





**3-d. RISK FACTORS AND MITIGATION STRATEGIES****Identify the proposed risk factors and methods for dealing with these factors.**

Fluor Daniel has developed the plan of finance for the Capital Beltway HOT-Lane project based upon the tried and proven experience of our team on similar projects in Virginia, throughout the United States, and abroad. The project financing will be structured so that the principal risks associated with the transaction are allocated among the Fluor Daniel team, investors, and/or third parties that are compensated for taking risk, such as an insurance company.

**Construction of Facility on Time and Under Budget** – The Fluor Daniel team assumes all responsibility for delivering the project, with the exception of any necessary utility relocations and right-of-way acquisitions if any. These elements have been excluded for the purpose of pricing the conceptual proposal scope of work and can be added at a future date at the direction of the VDOT.

**Traffic and Revenue Risk** – Purchasers of the project debt and potential credit enhancers bear the risk that project revenues may not be sufficient to pay scheduled debt service. VDOT will have absolutely no financial obligation to those investors. Under current proposal though, VDOT would be required to provide funds to operate and maintain the facility if net project revenue is not sufficient. The risk of a payment, however, is minimized by structuring the project debt with significant coverage and by funding reserve and contingency accounts. Fluor Daniel will consider taking a risk position in the financial architecture of the transaction to mitigate revenue realization risk, as it did for the Pocahontas Parkway transaction.



**3-e. LOCAL, STATE, OR FEDERAL RESOURCES**

**Identify any local, state, or federal resources that the proposer contemplates requesting for the project. Describe the total commitment (financial, services, property, etc.), if any, expected from governmental sources; and the timing of any anticipated financial commitment.**

Based upon the initial construction estimates and the assumptions used in developing the capital market strategy outlined above, the Capital Beltway project is currently able to fund at least 50 percent of its costs through self-supporting, nonrecourse toll revenue debt. The Fluor Daniel team proposes to fund the remainder of the project costs through a subordinated loan from USDOT under the TIFIA program and from a direct contribution by the governmental sponsors of the project

**TIFIA Loan**

The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides a mechanism whereby the federal government can provide financial sponsorship to major infrastructure programs that meet the criteria of the act. The proposed Capital Beltway HOT-Lane project meets the criteria of the act on all counts and is closely aligned with the stated objectives of the TIFIA program. USDOT and FHWA have been anxious to demonstrate that this program can be used to help facilitate new toll facilities, though as yet no loans have been extended to a new tolled transportation project.

Under TIFIA, the federal government can extend a loan equal to up to 33 percent of the qualifying project costs at a loan rate equal to the applicable prevailing Treasury bond rate. This implies that as much as \$200 million of the Capital Beltway HOT-Lane project could be funded through a TIFIA loan. Fluor Daniel will submit a letter of interest to FHWA for inclusion of the project in the TIFIA program as soon as this conceptual proposal has been accepted by VDOT. With the anticipated receipt of a record of decision this winter, Fluor Daniel believes that utilization of the TIFIA program would be an enhancement to the plan of finance and can be used without causing any delays in the proposed project development schedule.

**Governmental Financial Sponsorship**

The conceptual plan of finance for the Beltway HOT lanes supplements project revenue loans with a financial participation by the project's governmental sponsors. The recently enacted legislation that will place a referendum on the November ballot to provide for an additional 0.5 percent sales tax to support transportation improvements in Northern Virginia may provide a mechanism to permit governmental funding for the Capital Beltway HOT-Lane project.

**Tab 3: Project Financing**  
*3-e Local, State, or Federal Resources*

Significantly, the bill specifically listed projects that could be funded from the new sales tax, and one of the listed projects was “I-495 Improvements and Transit Improvements.” Given that the HOT-lanes project will permit improved express bus service, the proposed project may qualify for the funding set out in the bill if the referendum were to pass this fall. Our proposed local government financial participation is in an amount less than the \$200 million identified in the recent legislation for improvements to the Capital Beltway.

If the sales tax funding is not available for the Capital Beltway HOT-Lane project, other potential funding sources may include a direct contribution by the Commonwealth, Fairfax County, or the Northern Virginia Transportation Commission. Fluor Daniel will also explore other potential funding sources, including an increase to the capital markets’ share of project funding, if the assumed level of local government financial participation proves to be unworkable.

## Tab 4: Public Support

Fluor Daniel set as a goal for the Capital Beltway HOT-Lane widening concept to provide the additional capacity to move as much traffic as possible while causing no displacement of public or private properties. The Fluor Daniel concept has the potential for achieving this goal, and we anticipate it will also gain wide public acceptance. To assure that public support develops, Fluor Daniel is willing to conduct a HOT-Lane Marketing Program as part of the public involvement strategy.

### 4-a. COMMUNITY BENEFITS

**Identify who will benefit from the project, how they will benefit and how the project will benefit the overall transportation system.**

The front page of the June 21, 2002, *Washington Post* ran this headline, “Clogged Roads Cost Area Firms Billions – When Employees Get Stuck in Traffic, Profits Can Stall, Too.” In the Metro Section of the same edition of the *Post*, a headline ran, “Wasting Time to Save Time - Congestion Study Misses Real Toll, Area Commuters Say.” These media reports are typical of the frequent coverage of Washington area traffic conditions and citizen frustration with finding timely solutions. Traffic has become the major community concern according to many public opinion pollsters.

On June 20, 2002, the Texas Transportation Institute released its annual report on traffic congestion in America. That study again confirmed that the Washington region has maintained its third-place ranking for the worst traffic congestion in the United States, something that will not surprise users of the congested Capital Beltway as they sit in traffic longer every day. The likelihood that a 30-minute commute will become an hour or even more is increasing. All it takes is a small accident to take one or more Beltway lanes out of service. Increasingly, commuters find it necessary to leave earlier to assure they get to work on time or make that important meeting. This added time makes each trip even longer and is not computed as part of the recent national congestion report results.

Beneficiaries of the Fluor Daniel HOT lanes will be area commuters, long-distance travelers bypassing Washington, local road users, nearby neighborhoods congested by drivers avoiding the Beltway, and finally the local and regional businesses that rely on the Beltway for both timely arrival of employees and goods. The Fluor Daniel HOT lanes will benefit all these groups.

Specific ways in which the Fluor Daniel HOT lanes will benefit the traveling public and business communities are:

- Diverting traffic from local roads
- Reducing congestion on the eight free lanes by diverting up to 15 percent of 2015 traffic to the HOT lanes



- Giving drivers a choice to use the HOT lanes with its higher level of reliability and speed for a fee
- Allowing qualifying car pools (HOV) to use the HOT lanes for free
- Improving travel times for both the HOT and general-purpose lanes
- Permitting express buses free access to the HOT lanes allowing for reliable schedules and greater use
- Potentially preserving nearby established social and business environments by staying within the existing right-of-way
- Maintaining mobility on Fairfax County's "Main Street"

In addition to the above community benefits, Tab 5-b: Economic Benefits describes the importance of the Beltway to the local and regional economies.



#### 4-b. COMMUNITY SUPPORT

**Identify any anticipated government support or opposition, or general public support or opposition for the project.**

Fluor Daniel anticipates strong support for these reasons:

- The concept responds to the public concerns stated at the recent public hearings
- Traffic congestion is reduced for both Beltway and adjacent road users
- Benefits are shared by communities and businesses both near and far from the Beltway
- Negative environmental impact is low
- New non-taxpayer revenue will pay for most of the improvements
- Demonstrated public popularity of existing HOT-lane operations elsewhere
- Receptiveness of Northern Virginia residents to the concept, based on a recent opinion survey
- The many transit/express bus HOT-lane routing opportunities created
- The air quality benefits that have led national environmental groups to support HOT lanes elsewhere
- Fluor Daniel's concept can provide all these benefits sooner rather than later.

#### Capital Beltway Widening EIS Public Hearings

Fluor Daniel representatives attended all three VDOT public hearings on the widening alternatives for the Capital Beltway May 28 to 30, 2002. Several hundred people attended each meeting with 30 to 50 providing oral statements. Following are several major themes that resulted from those comments and how the Fluor Daniel concept responds to those concerns.

***Many citizens were concerned that all reasonable alternatives were not considered*** – The Fluor Daniel concept combines many of the advantages of the “Concurrent HOV – 10 Lanes with 2 HOV” with the “Barrier Separated HOV – 12 Lanes with 4 HOV” Alternative into one option. The Fluor Daniel concept is a direct outgrowth of the study effort and is a response to stated public concerns. At each hearing, several citizens asked why HOT lanes, variable pricing, FAIR Lanes, and other elements similar to the Fluor Daniel concept were not considered. This concept provides a response to those comments. A recent letter to VDOT from Fairfax Supervisor Gerald Connolly, Figure 4-b.1, indicates his awareness of HOT-lane popularity and a request to evaluate the idea.

***Citizens questioned the high costs and wondered where the money would come from*** – The Fluor Daniel concept will cost considerably less than the EIS alternatives and will help to finance the widening. User fees will be collected from the nonqualifying HOV vehicles choosing to use the HOT lanes. This approach reduces the taxpayer burden by asking some of the road users, especially the longer distance drivers, to help pay for the improvements if they chose to use the HOT lanes. This concept offers the driving public a consumer choice in highway service while maintaining full free-access for car pools, transit express buses, and emergency vehicles.

GERALD E. CONNOLLY  
SUPERVISOR  
PROVIDENCE DISTRICT  
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COMMONWEALTH OF VIRGINIA  
**COUNTY OF FAIRFAX**  
BOARD OF SUPERVISORS  
FAIRFAX, VIRGINIA 22035



June 3, 2002

Whittington W. Clement  
Secretary of Transportation  
Office of the Governor  
State Capitol, 9<sup>th</sup> Street Office Building  
Richmond, VA 23219

Dear Secretary Clement: *Whit*

I have reviewed the three Build Alternatives presented in the Capital Beltway Draft Environmental Impact Statement (EIS) dated March 2002. I have a number of serious concerns with all of the alternatives.

My concerns are summarized as follows:

- The Build Alternatives do not adequately minimize displacement of homeowners and businesses and, additionally, adversely affect park and cultural resources. We need a solution that optimizes the use of existing right-of-way for both thru lanes and interchanges.
- The Build Alternatives are not sufficiently environmentally sensitive. Not enough has been done to encourage car pooling, express bus ridership and assure long term future mobility of what has become our Main Street.
- The Build Alternatives do not adequately address the need for the Capital Beltway to provide for assured access for emergency vehicles nor for facilitating evacuation in the event of an emergency or disaster affecting the core of the Washington region.
- The Build Alternatives do not address the possible extension of a rail system around the Beltway.

- The Build Alternatives do not address the possibility for some portion of the new lanes to be tolled as so-called "hot lanes" in order to make the project more fiscally achievable and thus, within a short period of time, a reality rather than a dream, while providing a source of revenue that could be used in the future for other critical transit and transportation projects.

I am aware that in other areas of the country, there are highly popular, innovative concepts and technology that have been used on interstate highway projects which might have applicability here. The citizens of Fairfax are intelligent, sophisticated and open to new transportation concepts, especially if they address the concerns I have summarized. Therefore, I request there be an evaluation of the concept and technology available to provide for the combined use of the HOV lanes with non-HOV toll use of the express lanes. It is my hope that a fair evaluation of these concepts and technology might produce an approach which could address more adequately the concerns expressed above.

I believe that whatever we do to address capacity should be done within the existing right-of-way thus minimizing impacts on neighborhoods, homeowners and the environment.

Thank you for your thoughtful consideration of these suggestions.

Sincerely,



Gerry Connolly  
Providence District Supervisor

GEC/lwf

Cc: Capital Beltway Study c/o Parsons Group



***To most citizens the quality of life issues, displacement, air quality, and better mass transit, were very important*** – On displacement, the Fluor Daniel concept will potentially eliminate the need for displacing any property outside of the existing right-of-way. On air quality, other operating HOT lanes have been scientifically proven to be less damaging to air quality than a traditional highway widening solution based on objective analysis of actual HOT operations. The HOT-lane concept has on a number of occasions earned the support of the Environmental Defense Fund, a major national environmental organization. With regard to improving mass transit, HOT lanes have been shown to facilitate more efficient and timely express bus use and significantly increase car pooling, moving more people and fewer cars. The San Diego I-15 HOT-lane operation has permitted it to extend its express bus service and to pay for new buses. The Houston Texas HOT lanes are actually owned and operated by the local transit authority, not the highway department.

***Concern that the EIS alternatives will not offer a long-term solution requiring more widening in 15 years*** – The Fluor Daniel HOT-lane concept through the use of value pricing can assure the public that a constant and reliable level of mobility along the HOT lanes can be assured far beyond 15 to 20 years. The concept permits VDOT to manage the level of service (LOS) through the user fee mechanism. When traffic is heavy, the fees go up, and when traffic is lower, fees go down, allowing VDOT to provide a “guaranteed” reliable LOS on the HOT-lane facility.

### **Popularity of Existing HOT-Lane Operations**

All existing HOT lanes in California and Texas have very strong public support. HOT lanes are also under development in many additional states such as Colorado. The existing HOT-lane operations have developed loyal constituencies, which are not just limited to the actual HOT-lane users. One example is the I-15 FasTrak lanes (HOT lanes by another name) owned and operated by the San Diego Association of Governments (SANDAG). SANDAG is in the process of widening them from two to four lanes and lengthening the system from 8 to 20 miles. Before making the decision to expand, SANDAG conducted an extensive public outreach effort to determine the public’s attitudes. The results were dramatic. Strong support for both HOT lanes and expanding the existing system was received from all groups interviewed. The three focus groups interviewed are actual HOT (FasTrak) lane users, parallel mainline users, and transit (express bus) users. An overall 92 percent approval rating was received for the travel timesaving from use of HOT lanes. The SANDAG outreach survey interviewed citizens with experience on or near real operating HOT lanes. Figure 4-b.2 provides a summary of SANDAG's outreach report.

### **Northern Virginia Driving Public's Receptiveness to HOT Lanes**

A November 2001 survey conducted for Fluor Daniel by Research/Strategy/Management, Inc., a national polling firm with specific expertise in Virginia transportation issues, questioned more than 300 northern Virginia licensed drivers regarding a number of transportation issues. When asked if they generally “favor or oppose charging tolls to fund new highway projects,” respondents chose “favor” by a margin of 58 to 41 percent. Moreover, a whopping 77 percent said they would favor

“a new kind of highway that has both express lanes, which would be toll lanes, and local lanes, which would be free, thereby giving drivers a choice of which to use.”

These results clearly indicate the potential for broad public support for the Capital Beltway HOT-Lane project.

### **HOT Lanes are Air Quality Friendly**

Fluor Daniel is confident that the HOT-lane concept will provide lower levels of key pollutants and will become a regional model for increasing highway capacity in an environmentally and transit friendly manner. As part of the project development, Fluor Daniel will cooperate in the analysis of the air quality impacts of this concept versus the no-build and other build alternatives included in the pending DEIS. For a more detailed discussion of how the environmental evaluation process will work, see Tab 2-b: VDOT Participation. Further discussion of the air quality benefits of HOT lanes can also be found in Tab 2-d: Social, Economic, and Environmental Effects.



**Public Opinion Survey Summary  
I-15 Managed (HOT) Lanes Extension  
San Diego Association of Governments (SANDAG)**

An extensive public outreach program was conducted by SANDAG in 2001-2002 to establish if public support existed for widening and lengthening the existing I-15 Managed (HOT) Lane pilot program, locally known as FasTrak. The existing FasTrak-managed lanes are located in the median of I-15 and consist of eight miles of two reversible managed lanes. Qualifying HOV (car pools) have free access, and single occupant vehicle (SOV) users pay a fee that varies with the time of day. SANDAG is planning to widen the Managed Lanes from 2 to 4, with a movable barrier that allows 3 lanes to operate in the peak hour direction, and extend its length from 8 to 20 miles. As a result of the overwhelming public support SANDAG is moving forward with the I-15 extension plans. The text of the full report is available at: [www.sandag.org/fastrak/pdfs/concept\\_plan\\_vol2.pdf](http://www.sandag.org/fastrak/pdfs/concept_plan_vol2.pdf). Following are relevant highlights from those SANDAG report conclusions:

- **Overall Support:** 92 percent of those surveyed like the FasTrak program proven travel time savings
- **Regular (Free) Lane Users:** Almost two-thirds (66 percent) of users who do not use the Managed Lanes also support the HOT-lane program. Seventy-one percent of the regular lane users and 75 percent of Managed Lane users have no objection to the FasTrak concept either philosophically or practically.
- **A Large Majority of Transit and Car Pool Users Support FasTrak (HOT) Lanes:** The use of value pricing on express lanes is seen as "Fair" by a majority of express bus riders (94 percent) and car poolers (92 percent). Seventy percent of car poolers stated that the express lanes were a factor in their decision to begin car pooling
- **Low Income and Minority Support HOT Lanes:** Despite equity concerns that have been raised in other states without value pricing, more than 80 percent of the lowest income users of I-15 agree with the following statement; "People who drive alone should be able to use the I-15 Express Lanes for a fee." Low-income users were more likely to support the statement than the highest income users. Express Bus Service on the Managed Lanes is a Key to Dissolving Any Reservations Regarding Equity for Lower Income Groups — Once survey participants gained a clear understanding of the features of FasTrak, including the Bus Rapid Transit, support for the project became widespread.
- **Congestion Reduction:** Seventy-three percent of non-HOT-lane users agree that the HOT lanes reduce congestion. Extending the lanes was the top choice for reducing congestion for both HOT lane and non-HOT lane users.
- **Support for Expanding the HOT Lane System:** Eighty-nine percent of I-15 users support extending the HOT lanes.

Figure 4-b.2. SANDAG HOT-Lane Outreach Report Summary



#### 4-c. PUBLIC INVOLVEMENT STRATEGY

**Explain the strategy and plans that will be carried out to involve and inform the agencies and the public in areas affected by the project.**

The November 2001 Northern Virginia survey results clearly indicate a high potential for broad public support for the Capital Beltway HOT-Lane project. Moreover, the nature of the project is such that it would mitigate many of the criticisms of the vocal minority of persons who testified against the proposed Beltway widening in the hearings held in May. The Capital Beltway HOT-Lane project should not displace any homes or businesses; is public-transit friendly in that it makes express buses more efficient and reliable; has a positive impact on air quality; represents a prudent use of tax dollars by using toll revenues; and represents a responsible, long-range solution to area transportation problems.

By publicizing these and other advantages of the concept, it will be possible to maintain and strengthen the consensus of support, which is critical to the success of the project. Therefore, Fluor Daniel will establish a proactive public participation program. This program will anticipate the information needs of the citizens, businesses, and public officials. In cooperation with VDOT, Fluor Daniel will devise a strategic communications plan, involvement mechanism, and marketing plan to assure continued support by all stakeholders.

Any project of this magnitude requires significant planning and careful execution of a public information program designed to increase awareness of the project; provide accurate information about its nature, benefits, cost, and effects; motivate public support for the undertaking; and mitigate misinformation and misinformed with regard to its consequences.

This process should begin at the very earliest moment possible and consist of:

- Additional, project-specific public opinion research to define targets and stratify the opinion universe, as well as to test various possible messages, language, and symbols. Over the course of the project, both quantitative (e.g., survey) and qualitative (e.g., focus group) research techniques will be needed.
- A comprehensive communications plan covering all aspects of the program.
- An ongoing public appearance training program for project spokespersons.
- A community relations program designed to provide ongoing information to and build positive relationships with the general public, including:
  - Use of media interviews
  - Conveniently located project information office
  - Open toll-free information telephone number



- Public appearances at civic organizations by the project director and key staff
  - A well-publicized, interactive Web site, and other Internet techniques including the development of an extensive e-mail list
  - Carefully planned news making at important moments in the process
- A community leadership program designed to build support for the project among opinion leaders such as local elected officials, business and labor leaders, the news media, and others.
  - Selective use of advertising, timed around key events in the process; brochures and other publications; direct mail; and print, radio, and television advertising.

The key to the success of the overall public information/communications program will be the extent to which each element is coordinated with the other elements. This coordination will require the overall direction of a permanent communications staff that can work with and provide day-to-day implementation of the plans and programs designed by consultants, agency personnel, and other professional resources.



## Tab 5: Project Benefit/Compatibility

### 5-a. CONSISTENCY WITH EXISTING PLANS

**Describe the significant benefits to the community, region or state. Identify any state benefits from the project including the achievement of state transportation policies or other state goals.**

#### **Community Benefits**

Because of the Beltway's role as a key link in the region's transportation system, major Beltway improvements have been recommended in local, regional, and state transportation plans for almost a decade. These improvements are needed to accomplish the following:

- Provide safer travel on the Beltway.
- Correct problems with current roadway design and interchange configurations.
- Accommodate growing travel demand and changes in regional trip characteristics. Ease congestion on the Beltway and reduce "cut-through" traffic on local roadways and neighborhood streets. Complete the region's HOV network and enhance connections with other regional roadways.
- Accommodate expanded mass express bus transit along the Beltway and improve access to transit rail and other transportation modes throughout Northern Virginia.
- Serve the diverse mix of land uses in Northern Virginia more effectively and improve mobility between regional activity centers.
- Help sustain the local and regional economy.
- Upgrade the region's transportation infrastructure in accordance with local and regional plans.

#### **Compatibility with Existing Plans**

Improving the Capital Beltway will upgrade the region's transportation infrastructure in accordance with local and regional plans. Enhancing mobility in the Beltway corridor and adding capacity to the roadway has long been recommended in a number of long-range transportation and land use plans prepared by various local, regional, state, and federal agencies. Current plans that generally endorse or recommend continuing improvements to the Beltway include the following:

- Fairfax County's *Policy Plan*
- Fairfax County's Comprehensive Plan
- National Capital Region Transportation Planning Board's *Transportation Vision Plan*
- National Capital Planning Commission's Comprehensive Plan for the National Capital

Long-range transportation and land use plans that specifically recommend implementing the Beltway improvements include the following:

- Fairfax County's Comprehensive Plan.
- Fairfax County's Transportation Plan.
- National Capital Region Transportation Planning Board's *Update to the Financially Constrained Long-Range Transportation Plan for the National Capital Region*. The board is the designated Metropolitan Planning Organization responsible for coordinating planning and prioritizing transportation improvements in the metropolitan Washington region.
- Northern Virginia Transportation Coordinating Council's *Northern Virginia 2020 Transportation Plan*. The council is an advisory group of locally elected officials from 13 northern Virginia jurisdictions and the Virginia General Assembly that serves as a caucus on recommending regional transportation priorities and funding allocations. The recommendations in the plan, endorsed by resolutions from 13 localities within the region, call for 10 general-purpose lanes and 2 HOV lanes on the Beltway and reconstruction of all 10 interchanges within the project limits.



## 5-b. ECONOMIC BENEFITS

**Describe significant benefits to the state's economic condition. Discuss whether this project is critical to attracting or maintaining competitive industries and businesses to the state or region.**

Improving the Beltway is important to the continued economic vitality of Northern Virginia and the Commonwealth for the following reasons:

- Northern Virginia is a major employment center and key element of the regional economy. Employment in Northern Virginia was 34 percent higher than employment in the District of Columbia and 14 percent higher than the combined employment of Montgomery and Prince George's Counties in Maryland in 1995.
- Most new jobs and businesses are in suburban locations. New businesses are found in areas such as Fairfax County on sites convenient to major transportation facilities like the Beltway. Eighty-four percent of the Washington area's new jobs are located in the suburbs.
- Regional employment will increase substantially over the next two decades. By 2020, employment levels are expected to increase by 50 percent.
- Changes in the composition of the workforce are increasing travel demand. The Washington area has the highest number of commuters per household of any region in America due to the fact that 80 percent of all eligible workers are employed and two workers are found in 75 percent of all households.
- Congestion has economic costs. The Beltway's increased congestion could undermine efforts to attract new businesses and retain those already in place. Traffic congestion is already the top concern of current workers and prospective businesses seeking to relocate to the area. By 2020, the Greater Washington Board of Trade estimates that increased congestion will raise local shipping costs by \$345 million a year. These costs, ranging from \$750 to \$1,300 per household, are likely to be passed on to consumers in the form of higher prices for goods and services.